Telephony

Volume 114 MARCH 19, 1938 Number 12

Employes Meet Their Greatest Telephone Emergency

TELEPHONE FACILITIES of Southern California Telephone Co. taxed to the utmost by devastating flood. Cable washouts on March 2 cut Southern California off from wire connection with outside world. Service partially restored five hours later after 650 construction men had bent all their energies to the stringing of temporary wire. Operators off duty and former operators voluntarily appeared for duty to supplement regular forces in handling unprecedented traffic load

TORRENTIAL rains struck the Southern California coast early in the morning of Wednesday, March 2, creating fast-moving floods which caused the death of at least 126 persons and an estimated property damage in the neighborhood of forty million dollars. It had been raining since the previous Sunday so the flood control basins were partially filled before the main onslaught struck.

The rain broke all records in the half-century experience of the weather bureau. In seven days 11 inches of rain fell in Los Angeles; and at Mt. Wilson, indicating the amount of water which ran off from the vast mountainous watershed across the coastal plain, there were 26 inches measured.

Unlike floods where the rivers span long distances and the crest can be planned for days in advance, the run-off from this storm came down the mountain canyons at 15 or 20 miles an hour. Flood control basins were completely filled before mid-afternoon; and the overflow moved with the power of water in a penstock over streets, bridges and all structures, including many homes, located in natural water courses.

Service lines of railroads, gas companies, power utilities and communications companies were all washed out at many points on the coastal plain, in the mountains and desert where they must cross washes and streams.

In a few hours numerous large lakes formed in the low parts of cities and farmlands.

The storm created an unprecedented test of communications facilities in this area. The working population and school children were caught on their way home, because few realized the seriousness of the situation. Water-filled streets and stalled automobiles caused traffic jams in all parts of Los Angeles and other cities.

An unparalleled number of calls, both local and long distance, flowed through offices of the Southern California Telephone Co. as the populace began struggling with its individual problems. Rumors of broken dams and other catastrophes, news of which went out over local radio stations, added to the terror of the citizens and, consequently, to the telephone load.

On the first day subscribers' lines

Two traffic employes of the Southern California Telephone Co., Henry Allen and Al Lawyer, crossed this railroad bridge in their automobile, on March 3, in going from Los Angeles to Riverside and San Bernardino to aid the traffic people there. The highway bridge was washed out at this location three miles east of Ontario. Later the same men went for miles along the highway, half of which had been washed away and the other half of which was completely submerged.

International News Service Photo

were remarkably free from trouble. Of 672,000 telephones only 4,300 or six-tenths of one per cent were reported out of service at 8:00 a. m. Wednesday. While this number grew as lines and cables gave way before the irresistible power of the water, the major problem was never one of telephones out of service.

Only one of the Southern California company's 147 central offices was forced completely out of service by the flood waters. That was in the Orange County town of Anaheim, where three feet of water in the street Thursday, March 3, filled the basement of the telephone building and flooded the power equipment and batteries.

A half-dozen other exchanges in low points in the valleys were seriously crippled but there was never a time in any community, with the exception of Anaheim, when calls were not being handled in tremendous numbers. In North Hollywood on the day after the main storm, about 2,000 of its 6,700 telephones were cut off by washouts and standing water. The central office, however, remained operating—and it handled more local calls than ever before in its history, which was a great boon in rescue and relief work.

The Los Angeles long distance office recorded 32,000 requests for calls on the main day of the storm, eclipsing the records of the 1933 earthquake, of the 1934 New Year's day flood, and of all Christmas days.

Despite the handicap of washouts as torrents from the mountains carried away long distance circuits route by route in underground and overhead cables and open wires to the north, east, and south, during the day 26,000, or 80 per cent, of these calls went through. This performance in completing the calls was accomplished by filling every switchboard position with operators, many of whom voluntarily reported for duty; others who had previous switchboard experience and were then working in other departments responded quickly to the emergency.

The long distance wires also, before they were swept away, carried undetermined thousands of telegrams to to the north and east.

Southern California was cut off from wire communication with the rest of the country on the afternoon of March 2 as, one after another, ten major breaks occurred in long distance lines. These were real breaks with cables or poles and wires completely washed out by the force of water and debris. For distances ranging from 700 to 1,200 feet, many underground cables were washed out of the earth and left suspended with tile conduits weighting them down in powerful streams.

One such cable miraculously held up thousands of pounds of tile conduit with service uninterrupted until repairmen could break off the tiles and arrange temporary supports. This underground cable, which thus became an aerial cable, still serves an important section west of Los Angeles.

Telephone, telegraph, press, and broadcast facilities to the east, served by two underground cables between Los Angeles and San Bernardino, were cut off by seven separate washouts during the afternoon of the heaviest rainfall, March 2. Trucks, loaded with waterproof temporary wire, were dispatched from the Los Angeles warehouse of the Western Electric Co. immediately to the nearest break.

The same procedure was followed in rapid order as each succeeding toll lead or cable went out, and 1,260,000 feet of temporary "duplex" wire were available in the Los Angeles Western Electric warehouse. The San Francisco warehouse shipped another 1,300,000 feet of duplex to Los Angeles by truck.

Six hundred fifty construction men were sent into the field that day to repair the breaks. Working night and day, they succeeded in stringing wire across the washouts to the north, bringing back service for the most urgent messages only five hours after the city was cut off.

Three million people frantically tried to get calls through to reassure or tell their misfortunes to friends and relatives outside of Southern California, while other untold millions in the rest of the country and world were trying to get authentic and specific information about this area.

Impeded by inability to get the necessary material across washed out roads and bridgeless torrents, 50 construction crews and 150 splicing gangs battled to restore the wires which they knew were needed to carry the good news of millions uninjured and the bad news of thousands homeless. The table at the bottom of this page shows the job they undertook and what they accomplished.

In addition to these ten major breaks there were eight breaks of about the same type in minor toll lines which might have been used to patch through circuits if they had not been washed out. Although of secondary importance, these breaks were treated with almost the same urgency as the major breaks and service quickly restored.

Western Electric had on hand more than a mile of full size toll cable and ample amounts of local exchange cable in the larger sizes. Supplementary shipments were made from the San Francisco warehouse to make permanent restoration of the toll cable.

Meanwhile, 4,000 Southern California Telephone Co. operators were struggling to handle the greatest burden of local and long distance calls in the company's history. Every switchboard position was filled. While hundreds of the girls themselves had great difficulty in getting to work, they demonstrated amazing resourcefulness and courage in fording streams, wading, and begging rides as their usual means of transportation failed them.

Girls by the score voluntarily re-

Route	Time Failed	First Temporary Service Established	Approx. Full Service Restored
Los Angeles—Newhall	5:00 p. m., March 2	2:00 p. m., March 3	11:00 a. m., March 5
Newhall—San Francisco	2:05 p. m., March 2	11:20 p. m., March 3	8:30 a. m., March 5
Los Angeles—Ventura	12:55 a. m., March 3	5:30 p. m., March 3	Sunday a. m., March 6
Los Angeles—Anaheim	9:00 a. m., March 3	9:00 p. m., March 4	Saturday p. m., March 5
Los Angeles—San Bernardino	1:30 p. m., March 2	4:45 p. m., March 3	Saturday p. m., March 5
Anaheim—San Diego	5:20 p. m., March 2	8:00 p. m., March 4	Saturday p. m., March 5
San Bernardino—Whitewater	5:00 p. m., March 2	.....	Monday, March 7
San Bernardino—Las Vegas	1:45 p. m., March 2	.....	Sunday, March 6
San Bernardino—Riverside	4:00 p. m., March 2	3:45 a. m., March 5	Monday, March 7
Whitewater—Yuma	5:00 p. m., March 2	.....	Sunday, March 6

This table describes better than words the task which confronted the construction men of the Southern California Telephone Co. and what they accomplished in restoring toll service.

Before flood waters had subsided, crews of the Southern California Telephone Co. were in the field repairing broken lines and cables. E. J. Loustounau is seen at work stringing a cable across a channel near North Hollywood. The cable is part of the toll lead to Bakersfield. Illustration to right shows Los Angeles-San Francisco inland cable where it crossed Los Angeles river at Vineland avenue, North Hollywood, showing temporary cables.

ported for duty during times when they would normally be off schedule. Indicative of the spirit of the service and of the universal feeling among employes of the essential nature of their work, there were cases where operators who had long since left the company's employ came into the offices and donned headsets; many others, who were then doing clerical work, came back to the switchboards.

Traffic men were not shorthanded. On the contrary, their job was to get girls to go off duty so that they would be fresh and able to carry on

President Powley Expresses Appreciation

In a statement, issued March 7 announcing that long distance facilities in and out of Southern California were virtually normal that morning, following the greatest flood calamity the Pacific Telephone & Telegraph Co. has ever experienced, President N. R. Powley said:

"No tribute is too high to pay to our men and women who have worked untiringly under the most difficult conditions during the last five days 'to get the message through.'

Exchange service is practically normal throughout the Southland, with the exception of North Hollywood. . . .

We greatly appreciate the patience of the general public, and our people gratefully acknowledge the understanding and splendid cooperation of our many patrons in this most difficult period which we have just experienced."

Photograph below shows Los Angeles-San Francisco cables, inland route, where they were taken out of the ground to cross Los Angeles river following breaks. To right is another view of temporary cables where Los Angeles river washed out Vineland avenue in North Hollywood.

Type of Traffic	Total Calls Filed	Total Completed	Per Cent Completed	Previous High Calls Filed	Completed	Per Cent Completed	Normal Day Calls Filed	Calls Completed	Per Cent Completed	Per Cent, March 2, of Normal
Long distance	32,444	26,247	80.9	31,067	20,660	66.5	19,000	16,910	89.0	170.7
Nearby points	135,444	88,716	65.5	85,900	51,454	59.9	66,000	57,420	87.0	205.2
Local (through operator)....	640,000	.....	...	406,000	.....	...	318,000	.....	...	201.3
Local (through switches)....5,400,000		.....	...	3,500,000	.....	...	3,000,000	.....	77.0	180.0
Information	131,000	.....	...	101,000	.....	...	81,000	.....	...	161.7

Traffic record of the Los Angeles exchange of the Southern California Telephone Co. for March 2.

when most needed as the breaks were restored. The records for March 2 shown in the above table give some indication as to the burden carried by the automatic equipment and manual switchboards.

The traffic load on dial equipment is indicated by the comparison of readings for battery discharge in one of Los Angeles downtown offices:

1,480 amperes on March 2, 1938, as compared with 1,250 amperes at the peak of traffic last Christmas eve.

Increases in operating forces are indicated by the following comparison:

Los Angeles Offices	Total Employes on Duty March 2	Normal Day
Long distance	455	377
Local offices 1,077		921

In all other exchanges in Southern California increases in traffic and employes on duty were similar to those in Los Angeles.

Following are some instances of employe activities during the flood:

In Anaheim, restaurant and grocery services were disrupted. Food and other supplies sufficient to feed 250 persons were taken from Los Angeles by telephone men. In a number of outside offices sleeping arrangements had to be made for operators in telephone buildings.

One traffic employe, driving from Los Angeles to San Bernardino, was finally able to cross a swollen river by driving his car over the ties of a railroad bridge. Problems of inundation were being overcome at Anaheim office by the use of a portable generating plant, new central office batteries, four pumping machines, and many hand buckets—all rushed from Los Angeles by truck.

Local service was maintained generally following the two worst flood days. There were no new important interruptions of service and there were tremendous strides in restorations. By March 6 more and more circuits were put back into service hour by hour, and more and more calls were completed.

Besides the part played by employes, the excellent cooperation of public service agencies and of the subscribers, who were generally extremely fair and understanding of the problem, contributed greatly to lighten the burdens and overcome the difficulties of the most serious telephone service emergency in the history of Southern California.

COMING CONVENTIONS

Texas Telephone Association, Adolphus Hotel, Dallas, March 23, 24 and 25.

Oklahoma Telephone Association, Huckins Hotel, Oklahoma City, March 29 and 30.

Missouri Telephone Association, Hotel Muehlebach, Kansas City, April 4 and 5.

Iowa Independent Telephone Association, Fort Des Moines Hotel, Des Moines, April 12, 13 and 14.

Nebraska Telephone Association, Hotel Paxton, Omaha, April 19 and 20.

Kansas Telephone Association, Hotel Kansan, Topeka, April 27 and 28.

Ohio Independent Telephone Association, Deshler-Wallick Hotel, Columbus, May 3, 4 and 5.

Indiana Telephone Association, Claypool Hotel, Indianapolis, May 11 and 12.

Wisconsin State Telephone Association and Wisconsin Locally Owned Telephone Group, Park Hotel, Madison, May 17-19.

United States Independent Telephone Association: Conference of Class A and Class B Companies, Edgewater Beach Hotel, Chicago, May 25 and 26.

Pennsylvania State Telephone & Traffic Association, Yorktowne Hotel, York, June 2, 3 and 4.

New York State Telephone Association, Seneca Hotel, Rochester, June 7, 8 and 9.

Michigan Independent Telephone Association, Hotel Olds, Lansing, July 27 and 28.

The Illinois Telephone Association, Hotel Pere Marquette, Peoria, September 21, 22 and 23.

The Party Line and Radio Appreciation

"Have you ever lived on a party line? Have you followed its familiar voices —who said what to whom and when and why—in its little world looped together for the fun of listening?...Say what we may it's fun to listen."

Thus read the opening sentence of the text of a two-page advertisement of the Columbia Advertising System in Advertising and Selling. "PARTY LINE: 1937" is the caption of this advertisement which is illustrated by two photographs: One is a picture of a sweet-faced elderly woman in a home of several decades ago, listening-in to a conversation on a party-line telephone, with a young man holding his head close to hers in an effort to share in the fun of listening; the other presents a through-the-window glimpse into a modern home with several members of the family "eavesdropping on the wide world itself" by means of the radio.

The text of the advertisement continues: "What, indeed, is radio if not the party line—to which we listen because it is so much fun to listen. Indeed, how else can one explain the 95,500,000 family-hours of radio listening in this country every day?"

Spring District Meetings Scheduled in Illinois

Spring district meetings have been scheduled by The Illinois Telephone Association, to be held as follows: Belleville, April 19; Mattoon, April 20; Rantoul, April 21; Jacksonville, April 26; Galva, April 27; Sycamore, April 28, and Eureka, June 16. Both general and traffic meetings will be held.

A. J. Parsons is secretary-treasurer of the association and Mrs. Mayme Workman, traffic supervisor, both of Springfield, Ill.

Scene at Sixth and Flower streets, Los Angeles, Calif., showing waters brought by unabating rains, which covered downtown streets and caused hundreds of motorists to abandon their cars for more primitive methods of transportation—walking, boating and, in some cases, swimming.

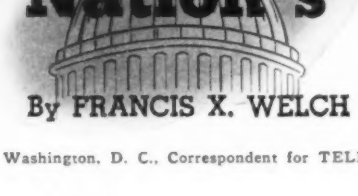
Below is a view of railroad tracks across the Los Angeles river, showing the wrecked North Figueroa street bridge in Los Angeles.

International News Service Photo

International News Service Photo

International News Service Photo

Supervisor Walter Pittman of the Riverside, Calif., fire department is standing on top of a completely submerged fire truck. In the background are two automobiles in which at least two persons are known to have met death when caught in a raging torrent caused by the overflow of the Santa Ana river.



In the Nation's Capital

By FRANCIS X. WELCH

Special Washington, D. C., Correspondent for TELEPHONY

POSSIBILITIES THAT MAY ARISE involving telephone companies, as result of the real dilemma of telegraph companies . . . New problems face the FCC due to progress of technology . . . Competition within the telephone industry and important part the Independent group may play . . . Regulations of government commissions concerning former employes

ASIDE from the forthcoming report of the Federal Communications Commission on its special Bell investigation, perhaps the most important matter for the telephone industry to consider from the Washington angle is the plight of the national telegraph companies.

Hearings were concluded last week on the petition of the wire concerns for a domestic 15 per cent increase and the result may possibly be known before these lines appear in print. It was generally believed that the FCC (augmented in this instance by "guest" colleagues in the person of five state commissioners) would grant to the telegraph companies the increase requested or the greater part of it.

THE LARGER problem which will ultimately arise and which will certainly not be settled in these proceedings involves the question of whether such relief will do the telegraph concerns any lasting good. It was on this point, it will be recalled, that Commissioner T. A. M. Craven differed from his fellow commissioners when the wire rate hearings were approved. In a separate opinion he took the seemingly realistic position that if the wire companies are really as financially sick as they claim to be, the commission should not confine itself to temporary palliatives of doubtful value.

It was for the same basic reason that the FCC refused on February 9 to limit the current hearings to the scope of the issues raised in the telegraph companies' petitions. And while it was not expected that these proceedings would go very far into the matter, there was evidence enough on the general competitive condition of the wire concerns to provoke an exploratory commission opinion (perhaps two or three of them) which may direct public attention to what is wrong with the American communications picture as a whole.

This is where the telephone industry will come in for direct notice if not eventual regulatory action. It is well enough known in the trade that the telegraph companies are being ground between the upper and nether millstones of a governmentally subsidized air mail service (which is raiding its slow traffic) and ever-cheapening telephone services (which are diverting its faster traffic). Under such pressure a higher telegraph rate is a doubtful remedy, and merger of the two main line companies (assuming political feasibility) is but a postponement of the real showdown.

Out of the consideration of this entire picture may come sharp hints from the commission that the competitive fringes of both subsidized air mail and special telephone services (leased wire and teletype) should be trimmed by regulatory action, so as to give the wire concerns room to live with some comfort.

Even so, it is difficult to see where the regulatory elimination or curtailment (through compulsory higher rates) of direct telephone competition with telegraph through such written message service would solve more than a minor part of the problem. And here's why:

THE TELEGRAPH companies' more important rival in the telephone field *is not the written message but the reduced long distance telephone rate itself.* Now, obviously, it is impossible for the FCC to restrict in any way the wider and cheaper public use of long distance telephone service. Its avowed policy is in the contrary direction.

Even were the FCC to confine its attention to the leased wire and telephone services rendered by the telephone industry in competition with the wire service, the commission is in a ticklish spot in view of the prevailing political mood in Washington which is to encourage bigger and better competition, cheaper prices and discourage all steps toward monopoly or restraint of trade.

Some of the commission, thinking of this angle, would probably prefer to say nothing and do nothing about the real dilemma of the telegraph companies, but simply give them their increase and wish them luck. There are at least two members of the commission, however, who are not likely to drift along with the tide of political expediency much longer.

What form their suggestions or recommendations may take is not known; perhaps a hint at a giant coordinated telegraph-telephone communications service, probably not government ownership as yet.

AND, AS IF the existing state of affairs were not perplexing enough to a commission sincerely trying to coordinate the regulation of all types of communications as developed by the present art of the industry, there, standing on the very threshold of the immediate future, is a host of new problems that will be dumped in our lap by the sheer progress of technology.

Facsimile broadcasting, with its

economic threat to the newspaper business; and its serious social implication, television, and other mechanical possibilities of the coaxial cable, drag in their train multitudinous regulatory complications.

Then there is always the tempting panacea of the radicals that the government could "coordinate" all these branches of communications better if they were all gathered under the wing of bureaucracy as they are in European countries. There is no present substantial agitation along these lines and this writer doesn't want to borrow trouble; but alert telephone executives would do well to anticipate these arguments and have ready answers long before they fall upon the ears of the public.

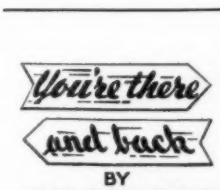
Government ownership could no more solve the broader competitive problems of communication by "coordinating" telephone, telegraph, air mail, and other services than the government of our father's day could have solved the competitive problem of the automobile and horse-and-buggy by "coordination." The telephone industry of America, which is today the envy of the world, was not developed nor could it ever have been developed under that kind of "coordination." A comparison of the American telephone industry with similar service abroad is compelling evidence.

AND THAT brings us back to a consideration of competition within the telephone's own field, and the important part which the Independent telephone industry, both manufacturing and operating, may play in the future development of the industry as a whole. If persistent rumors be correct, the telephone report prepared by the FCC special investigating staff recommends the segregation of the A. T. & T. from the Western Electric, just as the former had to give up its holdings in Western Union 20 years ago.

There is serious doubt whether such a recommendation, if made by the staff, will gain the approval of the majority of the FCC; and there is much more doubt that, if the FCC were to approve such a recommendation, Congress (not the present session, of course) would approve.

But as long as the subject is brought up, the consequences are well worth consideration. Would Western Electric, divorced from the Bell System and dealing with Bell and non-Bell companies alike on an arm's-length competitive basis, give new life to Independent manufacturers or new advantages to Independent operating telephone companies that might then be in a better position to deal with Western Electric?

It would be presumptuous for this writer, confined as he is to the Washington viewpoint, to attempt any answer to such a serious basic question. The point made here is that the question may soon be thrust upon you, and now is none too soon to be thinking about an appropriate answer.



This sales message was used recently by the Illinois Bell Telephone Co., on its monthly billing envelopes. It was imprinted on the back, where it caught the customer's attention.

THE RECENT action taken by the Federal Power Commission and Securities and Exchange Commission with respect to prohibiting staff members from leaving government service in order to practice before the commission which formerly employed them is an interesting commentary on the attitude of these two commissions.

The SEC rule is rather mild. It prohibits former members of its staff from representing clients before the SEC upon matters which were pending during their employment, without first having received the commission's consent.

The FPC's ruling, however, is a pretty severe restriction:

> No person serving or having served as a commissioner, officer, expert, examiner, attorney, accountant, engineer or other employe in the Federal Power Commission shall be permitted to practice, appear or act as counsel, attorney, representative or agent in any proceeding before the commission, or before any regional office, division, or agency thereof, or in any manner or by any means aid or assist in the prosecution of any such matter or proceeding, within one year next after the separation of the said person from the service of the commission; provided, however, this rule shall not be construed to bar any such person from appearing before the commission in behalf of any other branch of the Federal government or in behalf of any state, municipality or other public agency.

It is noteworthy that Commissioner Manly, whose term expires next June, dissented from the adoption of this rule on grounds that it was too stiff—would prevent even a stenographer from leaving the FPC to go to work for a lawyer having cases before the FPC. Also noteworthy is the gossip that Commissioner Manly may not be reappointed, thereby breaking some more conservative opposition to certain left-wing policies within the commission.

It's a pretty open secret that Commissioner Manly did not always see eye to eye with Chairman McNinch when they were colleagues on the FPC. Incidentally, Dozier De Vane, former telephone attorney, recently quit his post as solicitor for the FPC to resume private practice, but it won't be before the FPC for reasons just stated.

Compared with both the FPC and SEC rulings restricting practice of former staff members, the ruling of the FCC is mildest of all. Here is Rule 101.7 of the FCC Rules of Practice, as amended a year ago St. Patrick's day (Walker dissenting):

> No person serving as an attorney at law in the Federal Communications Commission on or after July 1, 1935, shall be permitted to practice, appear, or act as an attorney in any case, claim, contest, or other proceeding before the commission or before any division or agency thereof until two years shall have elapsed after the separation of the said person from the said service. The provisions of this rule shall not apply to any person practicing, appearing or acting as an attorney in behalf of any municipality, or state or the Federal government in any case, claim, contest or other proceeding before the commission or before any division or agency thereof. The term "attorney at law" includes attorney-examiner. Nothing herein shall be construed to prevent any former officer or employe of the Federal Communications Commission from appearing as a witness in any hearing, investigation, or other proceeding before it.

You will see that the restrictions operate only on attorneys and leave engineers and other staff members to do as they please. Actually this writer believes these restrictions do little good, although the intent is undoubtedly in the right direction. The intent is to prevent former government officers from using personal knowledge of government affairs for private interests.

What often happens, however, is that a former staff member will drop out of government service and become affiliated with some firm in New York or elsewhere, and use his knowledge as much as he pleases—the firm handles the cases. Probably the dangers to public interest are overestimated anyhow. There is more reason for such a ruling in the Income Tax section of the Internal Revenue Bureau, for example, than in a regulatory commission where, from the very nature of things, there isn't much secrecy between both sides of any given case.

(*Concluded on page* 20)

Telephone Conversation

by AUTOMATIC ELECTRI

THAT highly important personage—the telephone user—is quick to sense the things that make telephone conversations natural, convenient and pleasant. That is why, when a telephone company introduces Monophones, subscriber appreciation of telephone service takes a definite stride forward.

Telephone users like the Monophone for many things, but first because it is styled to please them. It is a "comfortable" telephone to use. And because it is modern in conception, smooth flowing in outline, and lustrous in finish, the Monophone always reflects good taste. It blends perfectly with furnishings of every style—in home or office.

Users like the Monophone too because of its perfect "talking" qualities. With Monophones at both ends of a connection, conversation is distinct, natural and effortless—and represents the closest approach to the ideal of face-to-face talking.

In selecting your telephones, don't overlook the user's viewpoint. It is one of the many reasons why Monophones have been adopted as standard by so many operating companies. Write us for prices and catalogs.

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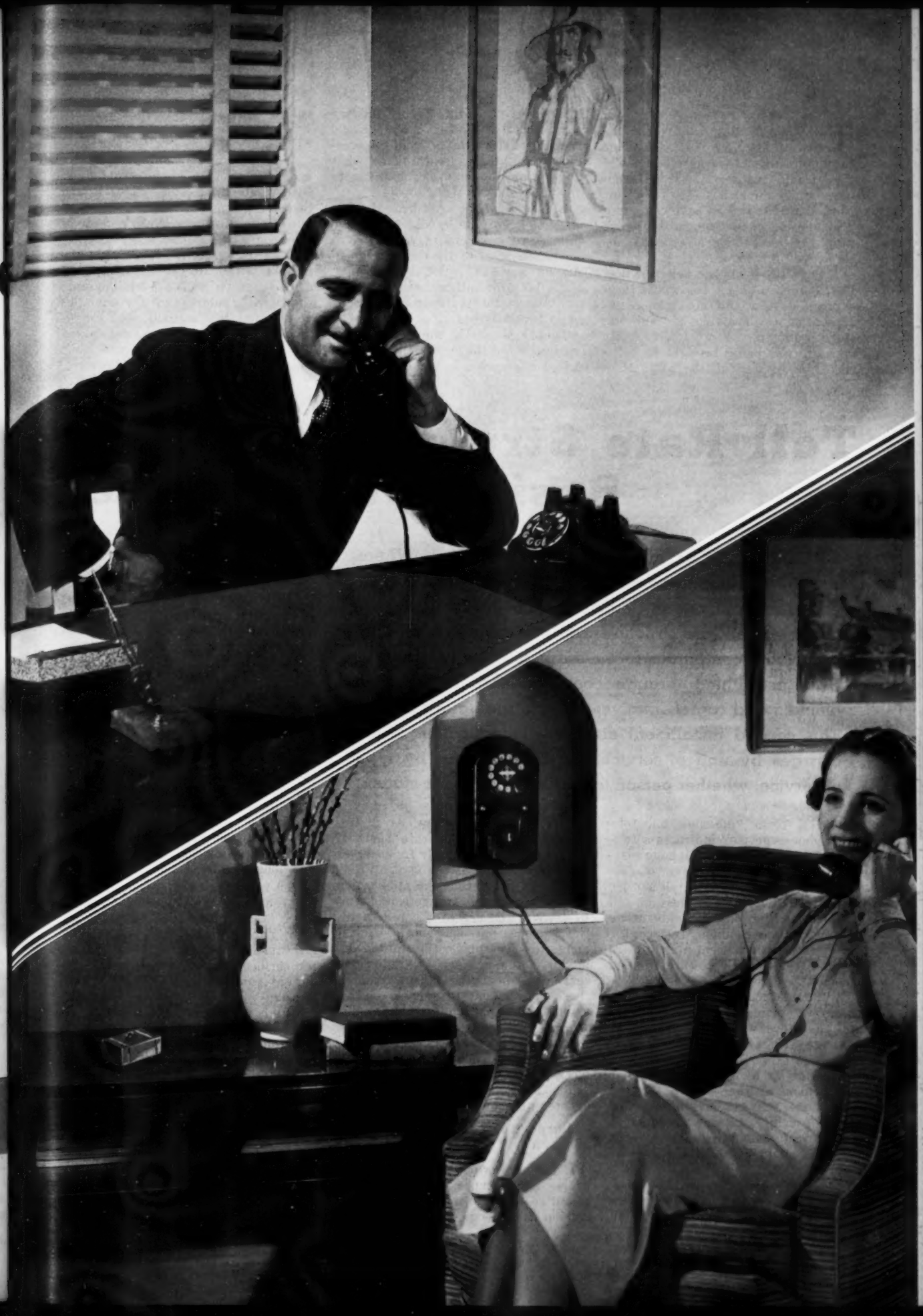

(*Concluded from page* 17)

TRIVIA: Noting the recent action of the New York Telephone Co. in offering its workers a bonus if they would resign, Howard Brubaker, staff humorist for The New Yorker, thinks things have come to a pretty pass when "we have to hire people to join the army of the unemployed" * * *

A year ago everyone believed that FCC Commissioner Case, whose term expires soon, would not take a reappointment. Two months ago the story went in the other direction; pressure was being brought to influence him to stay on the job. Now it's reversed again. Truth of the matter is that Governor Case would probably like to retire from the commission but hates to think of what might happen on certain matters after he left. * * *

Incidentally, the level-headed Commissioner Case is reported to have suppressed a recent movement of a certain member of the commission to set up an FCC staff whose duty would be to investigate every "informal" complaint that comes in about radio broadcasting.

These are mostly bug letters from crackpots and the size of the staff required for such a white-collar, leaf-raking project would probably make FCC surpass the size of the SEC. * * *

Whilst other Washington correspondents speculated and joked about just what it was that made young Senator Lodge of Massachusetts fall out of the presiding officer's chair in the Senate chamber some weeks back, this writer looked at the record—the Congressional Record. There, just as he suspected, was the explanation; the Senator addressing the chamber at the time had actually *split an infinitive*. Goes to show you can take a boy out of Harvard, but you can't take the Harvard out of the boy.

Toll Rate Structure— Basic Rate Practices

EXCERPTS FROM fact-finding report by C. I. Wheat, of FCC telephone rate and research department, to Federal Communications Commission on the Bell System's classified toll rate structure and basic rate practices of associated companies for message toll rate service. . . . Data assembled through cooperation of Bell System officials and representatives of state regulatory bodies. This second installment discusses classification of toll charges by unit of service, by distance and by type of service, whether person-to-person or station-to-station.

THE term "message toll telephone service" indicates a two-fold principle of telephone service classification, the primary classes being local and toll, with toll service further subdivided into message toll and private line toll. The advantage of separating telephone service for rate purposes into local and toll are so manifest that they scarcely need mention.

Without such classification into these two primary types of service and, therefore, without separate (per message) rates for toll service, exchange rates would doubtless tend to be so high as to restrict the proper development of local service. At the same time the lessened number of local subscriber stations would serve automatically as a restriction upon the use and utility of the toll service. . . .

The unit of service for toll business, exclusive of private-line service (which is outside the scope of this report) is the message, as distinguished from the flat-rate basis of charging used ordinarily for local, or "exchange" service.

It is apparent that the application of flat rates to toll service would tend to restrict the use of the toll facilities to those patrons whose requirements are well above the limited demand of the average toll telephone service consumer. Furthermore, those subscribers to such a service would tend to place unnecessary calls, which would further increase the overall operating costs and, therefore, the rates. Thus, the use of the message as the unit of toll service tends to extend the service to a greater number of patrons.

Purpose of Classification by Distance

Except for variations among toll routes as to types of transmission facilities and the degree of concentration of messages over particular circuit groups, the expense of furnishing telephone service ordinarily increases with the distance between the points connected, although not at a uniform rate. Obviously, the classification of charges in accordance with distance tends to distribute costs more equitably among consumers, since those who impose the greater burden of expense on the company are assessed with the higher charges.

One of the most significant aspects of Bell System toll rate making is the practice of applying the same charge for any given distance under any single rate schedule. That is, in areas within and between which a particular rate schedule is in effect, the rate is the same for any two communications of identical rate distance.

The rates for heavily-concentrated toll routes, with thousands of messages transmitted daily—such as New York-Philadelphia or Chicago-Milwaukee—are the same as those for service between correspondingly distant pairs of points with but one message or less per day. In effect, the high rate of return on busy circuit groups is thus balanced against the relatively low return on only slightly-developed routes. This averaging process makes possible relatively cheaper rates to points infrequently called, and tends to encourage development of service on circuits which are not used to capacity.

Fundamentally, this averaging process (i.e., equal rates for messages over all equivalent distances in any given rate schedule area) is apparently a necessity because of the

impracticability of adequately and equitably allocating joint costs among a vast number of potential message routes. In this connection, in the company statement already quoted (TELEPHONY, March 12, page 13) the following pertinent statement appears:

> Although there are differences in the demand for toll service and differences in the cost effects of supplying this demand between practically every route and every other route, the rate for each route cannot be fixed by special study: first, because the plant used, as well as the operating force, is jointly employed for a large number of routes so that it would be a practical impossibility to determine what the effect of different degrees of development of service over each route would have upon cost; and, second, because there is no basis for judgment as to the precise effect of rates on the development of specific routes under ordinary conditions. The service is general in scope.

In practice, the Bell System has apparently not attempted to determine the differentials between the rates for various distances on a rigid cost basis. In fact, the American Telephone & Telegraph Co. has made no recent studies of costs or rate of return at different lengths of haul which may be considered sufficiently satisfactory or reliable to be used in the consideration of rate differentials. In the determination of the amount of reduction, if any, at each mileage under a proposed rate of adjustment, the desire of the telephone companies to reduce the charge for distances believed to be most susceptible to the stimulation of new business through rate reduction has assumed a relatively large importance.

The effect of this practice has been a significant change in the rates established over the years for varying mileages. Under the major Long Lines toll rate schedule in force prior to 1919, rates were fixed, roughly, at six mills per mile throughout the schedule. In the so-called "Burleson" schedule, adopted in 1919 during the period of government control, the station-to-station day rate per mile was increased to 8⅓ mills for distances up to 24 miles, and the rate per additional mile thereafter remained constant at 6¼ mills, regardless of distance.

The 1926 revision on the Long Lines system extended the 8⅓ mill-per-mile rate on station-to-station day charges upward to 48 miles, but decreased the rate per additional mile on distances greater than 80 miles to five mills, and on distances greater than 150 miles to approximately four mills per additional mile. Subsequently, several partial altera-

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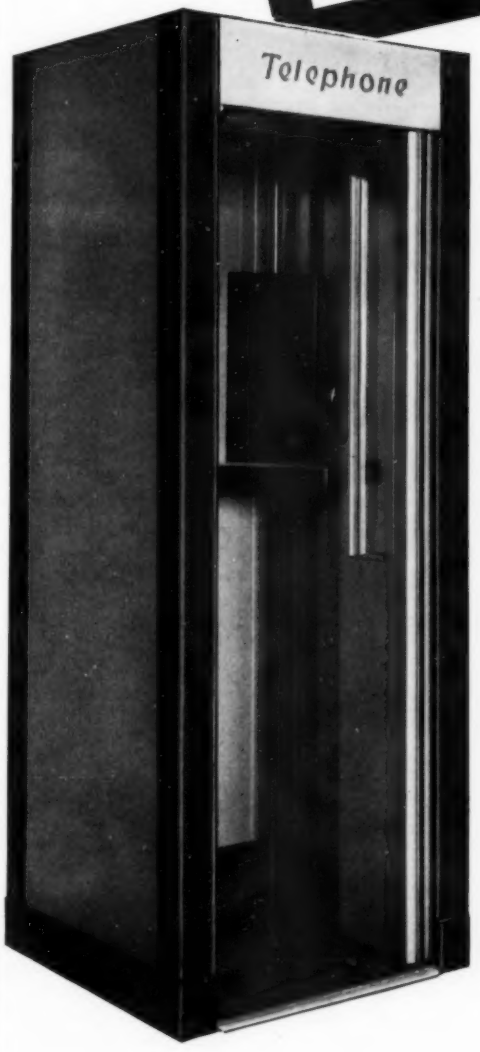


INCREASE YOUR EARNINGS WITH THIS NEW STEEL TELEPHONE BOOTH

Introduced only last year to the telephone field, this new All-Steel, Sound-Insulated Booth has become the accepted standard for many telephone companies.

Outstanding features of this new booth are: distinctive beauty (modern appearance and choice of colors); its electrical ventilation; its permanence (all-steel) and of greatest importance . . . its price, which is definitely lower than that for any folding door booths now in use.

Write today for complete details about this new booth and about the Sherron plan for "purchasing booths out of profits."

SHERRON METALLIC CORPORATION
1201 FLUSHING AVENUE BROOKLYN, N. Y.

tions were made in the scheduled rates per mile at various distances, with the result that prior to the major rate adjustment of January 15, 1937, numerous mileage rates were in effect at varying distances.

The January 15, 1937, rate reduction effected anew a regular progression of per-mile charges. The schedule then placed in effect for Long Lines service retains the 8⅓ mill-per-mile rate on station-to-station day calls up to 36 miles, but thereafter the rate per mile drops sharply, a rate of 2½ mills being reached at 160 miles. On very long hauls a rate of roughly two mills per additional mile is charged.

It should be borne in mind, however, that the rates just quoted are on the basis of the rate per additional mile above a given point. Since the rate for any particular distance is the cumulative effect of the charges for a series of mileage steps, we find, for example, that the station-to-station initial period day rate for a call from New York to Los Angeles averages approximately 2½ mills per mile for the entire haul, although at such distances the rate per additional mile is roughly two mills.

The following summary of the station-to-station day rates of the Long Lines schedule of January 15, 1937, indicates the changes in the size of the rate steps at varying distances, and the resultant rates per additional mile as contrasted with the average rate per mile at various lengths of haul:

Rate in Airline Miles	Miles in Rate Step	Rate per Step	Rate per Additional Mile in Each Step	Average Rate per Mile at Highest Mileage
0— 12	12	$.10	$.0083	$.0083
12— 36	6	.05	.0083	.0083
36— 48	12	.05	.0042	.0073
48— 160	16	.05	.0031	.0044
160— 680	20	.05	.0025	.0029
680—1080	40	.10	.0025	.0028
1080—1680	100	.25	.0025	.0027
1680—3000	120	.25	.0021	.0024

The very recital of these changes (primarily from a flat six-mill-per-mile rate before 1919, over all distances, to an 8⅓ mill-per-mile rate over short distances with a 2½ mill-per-mile rate over very long distances) raises a question as to the basis and the reasonableness of the changes so made. In the absence of even approximate data respecting costs of service at varying distances, this query cannot be answered. . . .

Measurement of Rate Distance

Message toll telephone rates between points (cities, towns or localities) are based on the airline distance between so-called rate centers, with minor exceptions. In general, each point is designated as a rate center, except that certain small towns or localities, commonly referred to as "same rate as" points, are assigned to adjacent rate centers with which they are closely associated for communication purposes or by community of interest. In certain large cities, there are several rate centers.

The rate distance, or rate airline mileage, between rate centers 40 miles or less apart by direct airline measurement is the airline distance separating them, as scaled from maps based on United States government post route maps. The exact measuring point for each rate center is usually selected from one of three landmarks, either at the post office, local city hall, or telephone central office.

For the purpose of determining rate distances between centers more than 40 direct airline miles apart, the country is divided into blocks and sections, the blocks being seven miles square, and the sections, each containing 25 blocks, being 35 miles square.

The rate mileage between rate centers over 40 miles apart by direct measurement is the airline distance between the centers of the blocks in which the respective points are located, except that the rate mileage between rate centers in sections the centers of which are more than 350 airline miles apart in any direction (or exactly 350 miles apart east and west or north and south) is the airline distance between centers of the respective sections. . . .

Although the procedure which has been outlined is generally followed by each Bell associated company, there exist several variations among the Bell Associated Companies in the practice of computing the rate distance between communication centers. . . .

Application of Distance Classification

The classification by distance is applied in practice by the establishment of a higher charge for successively higher rate steps or mileage blocks in the rate schedule. In effect, the charge for any given distance is on an incremental basis; that is, the rate is the cumulative total of the charges for each additional mileage block above the mileage covered by the minimum toll rate. All Bell System toll rates are quoted in multiples of five cents or more.

Under an "ideal" rate schedule, the number of miles in each five-cent rate step should apparently be as great or greater than the number in any preceding mileage block, in accord with the general business practice of selling larger quantities of goods or services at a decreasing price per unit.

In telephone toll rates, a progressively decreasing rate per mile may be brought about by gradually increasing the number of miles in the rate steps at the longer distances, which would tend to give recognition to the fact that terminal costs are a smaller proportion of total costs at the longer hauls. In the same manner, the use of shorter rate steps at longer distances tends to bring about regressive rates or a relative increase in the rate per mile.

The Long Lines schedule of January 15, 1937, for station-to-station day service does not contain any regressive mileage blocks, since in no instance is any given rate step shorter than any preceding step, excluding the first 12-mile step covered by the minimum rate. The Long Lines schedules of 1919 and 1926 also had no regressive steps; but in these schedules all steps above the very short hauls were of equal mileage at all distances, no matter how great.

In contrast to the Long Lines schedule the rate schedules of most of the Bell Associated Companies are found to contain numerous instances of regressive rate steps, a condition which also characterized the schedules applied by the Long Lines department prior to January 15, 1937.

The basic reason for the existence of these uneven mileage blocks is apparently not any failure of the Bell System to recognize the theoretical desirability of progressively longer steps, but is rather the result of numerous "piece-meal" rate reductions in various areas of the country over the past 10 years. Many of these reductions were characterized by the elimination of one or more steps from the previous schedule. . . .

The theoretical desirability of progressively longer rate steps, as previously stated, is based upon the fact that costs per mile ordinarily tend to decrease as the length of the haul is increased, due largely to the

lessening importance of terminal costs as longer and longer hauls are approached. It might be expected that this tendency to decreasing costs with distance would be evenly, rather than spasmodically, expressed in the rate schedule, but such is not the case under the Long Lines schedule. For distances to 36 miles, rate steps of five cents each are regularly applied to each additional six miles of distance. From 36 to 48 miles, the rate decreases sharply to 12 miles for an additional five cents, up to 160 miles. At this point, rate steps of 20 miles for each additional five cents are introduced, and finally there is a progression of 24-mile steps for each five-cent increase.

Unless some at present undisclosed (and presumably undiscovered) cost characteristic determines the rate steps so introduced into the schedulte, it would appear that the sudden increase in the length of such steps from six to 12 miles and thence to 16 may not be the most reasonable procedure. Indeed, a more even progression, especially in the "middle distances" might well be found preferable—such as mileage steps increasing from six to eight, then eight to 10, then 10 to 12 and so forth, up to the 20-mile steps where the existing changes become less important in proportion to the total haul.

Obviously, almost any type of progression is possible, and the sole question is as to the progression which might potentially be most equitable under all the conditions.

Classification of Service and Its Purposes

The two standard classes of two-point message toll telephone service are station-to-station and person-to-person service, the essential features of each being defined by the Long Lines department in tariff FCC No. 132. . . .

Station-to-station and person-to-person services affect costs differently and to this extent constitute different types and quantities of service. They are classified and subjected to differing rates which are at least partly related to costs, in order to control the development of the more costly person-to-person service, and to prevent restriction of the less expensive station-to-station type.

This classification tends to assess costs against different users in accordance with the responsibility for their incurrence, helps to promote efficient cooperation, and tends to limit waste of the service and to promote a greater use of the facilities by recognizing a demand on the part of the public for a less costly service.

Many people know the Bell System policy, "To render the best possible telephone service at the lowest possible cost consistent with financial safety." I believe it may interest them to learn how Western Electric helps in the fulfillment of this policy.

PRESIDENT

A financial statement without figures

In the Bell System, the manufacture, purchase and distribution of equipment are centralized in one organization—Western Electric Company.

From these large scale operations, important economies have resulted, and have made possible repeated reductions in Western Electric prices to the Bell Companies, even in times when the general price trend has been upward.

Western Electric's established policy is to set the lowest prices consistent with fair wages to its employees, a fair return on the money invested in the business, and the maintenance of the Company's financial stability.

The proof that this policy has been observed is that for the past twenty years the Company's rate of return on its investment has averaged less than seven percent.

Western Electric

BELL SYSTEM SERVICE
IS BASED ON
WESTERN ELECTRIC QUALITY

Theory and Practice of the Magneto Telephone Exchange—(Ctd.)

Such guys are seldom used as they have little holding power. It is usually better to supply the necessary strength by placing adequate pole sizes rather than use this arrangement.

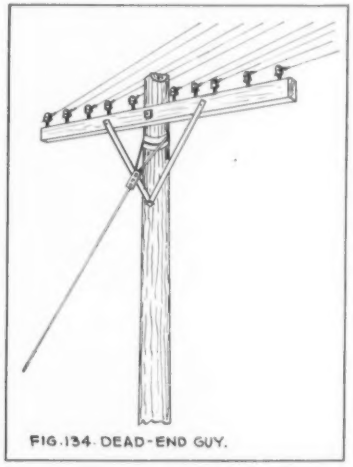


FIG. 134. DEAD-END GUY.

Arm Guy: When there is an unbalanced strain on a cross-arm, due to some of the pin positions not being occupied, a guy wire is often placed from the unoccupied side of the arm to the next pole so as to relieve the unbalanced strain on the arm and thus prevent it from pulling out of line.

Dead-End Guy: This term is used with reference to

PATENTED SEAMLESS TUBING COIL GENERATOR
IMPROVED ONE PIECE BURNER
PATENTED ARRANGEMENT FOR DISLODGING COIL WITHOUT TEARING DOWN FURNACE
HAND HOLD FOR CLEANER ONE TURN CLEANS ORIFICE
AUTOMATIC ORIFICE CLEANER
AUTOMATIC PUMP INSIDE TANK
16 GAUGE STEEL TANK WELDED BOTTOM

Gasoline **UNIQUE FURNACE** Kerosene

Designed for Public Utilities to withstand the abuse of splicing service! A fast heater — 50 lbs. solder melted in 10 minutes. BUT MORE IMPORTANT — the length of time it will remain in the field free from trouble usually experienced with the average furnace will surprise the old timer. Try a kerosene furnace which will subsequently prove to be better — require less attention—than the best gasoline furnace you ever used.
No. 55 Kerosene, $14.96
No. 53 Gasoline, $13.60
Complete with shield.

UNIQUE MFG. CO., Inc. **221 Whiting St., Chicago**

guys which are placed at corners or at the end of a lead (Fig. 134) to support the entire longitudinal strain of the line.

Sidewalk Truss Guy: This is a special type of guy used where a pole is located near a sidewalk or other obstruction

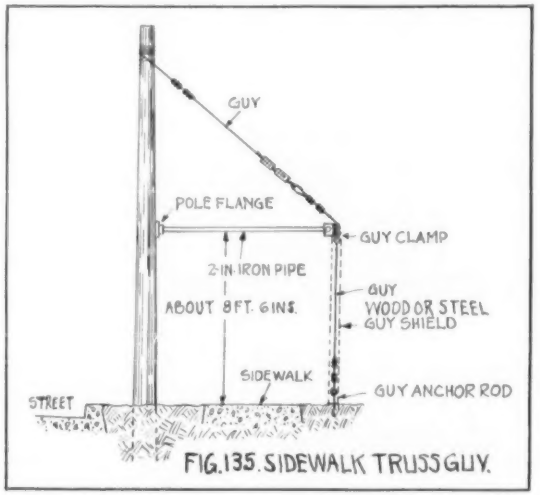


FIG. 135. SIDEWALK TRUSS GUY.

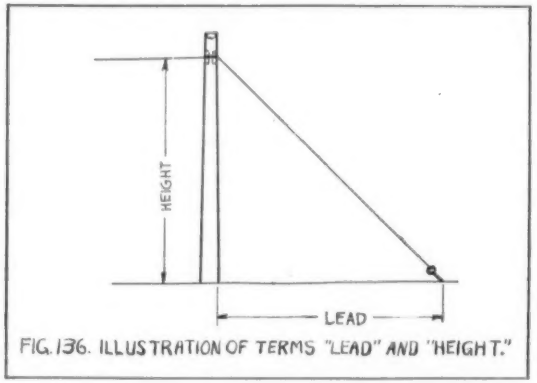


FIG. 136. ILLUSTRATION OF TERMS "LEAD" AND "HEIGHT."

and it is not possible to have the guy strand arranged in the usual manner. It consists in the use of a pipe or channel-iron strut to hold the guy wire away from the pole and permit the anchor to be set at an accessible location, Fig. 135.

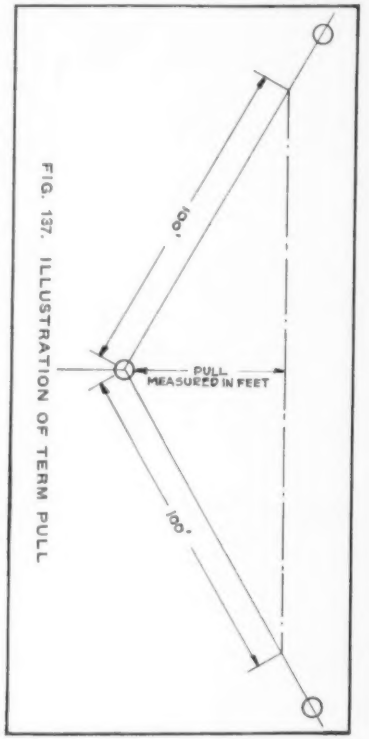


FIG. 137. ILLUSTRATION OF TERM PULL

Guy Strand or Wire: The strand or wire which is placed between the anchor and the load center on the pole to be guyed is referred to as *guy strand* or *guy wire*.

Anchor: A device placed in the earth for the purpose of presenting a large bearing surface against the earth and thus provide a holding force for the anchor rod attached to guy.

Anchor Rod: A steel rod to which the anchor is attached. It is threaded on one end and has an eye on the other.

Guy Lead: The distance in feet from the pole to the point at which the anchor rod enters the earth (used in guying computations).

Guy Height: The distance in feet from the ground line to the point at which the ground wire is attached to the pole, Fig. 136.

Pull: A measurement in feet which is made and used in guying computations and which, in effect, takes into account the angular change in a pole line, Fig. 137.

Efficient operation is promoted since the segregation of messages into station-to-station and person-to-person classes permits considerable refinement in operating methods for most short hauls, resulting in the more rapid handling of such calls at consequently lower costs. If all messages were on a person-to-person basis, which involves higher costs than station-to-station service principally because a long circuit-holding time and a greater amount of operating labor are required to establish the connection, there would probably be considerable waste of the service for those whose needs are fulfilled on a station-to-station basis. Development would, therefore, apparently, be restricted if only person-to-person service were offered.

Conversely, were all connections to be placed on a station-to-station basis, the needs of many patrons would not be fulfilled, service would be wasteful and more expensive to them if more than one call had to be placed to establish connection with a particular person, and many persons would tend to resort to other means of communication. Thus the use of the service would be restricted by the offering of only one such class of service, regardless of which class were offered.

In addition to the establishment of rate differentials between classes of service, a "report charge" is imposed in connection with certain uncompleted person-to-person calls. . . . The report charge does not apply to station-to-station calls except those sent "collect."

The primary purpose of the report charge, according to statements of officials of the American Telephone & Telegraph Co., is the prevention of abuse of the telephone service, rather than the production of revenue, it being asserted that the level of this charge is fixed below the actual average cost. In fact, a report charge made in respect to an uncompleted person-to-person call is credited against the charge for the same call if completed later in the same day or the following day.

Most, if not all, of the difference in costs of handling station-to-station and person-to-person messages consists of labor and the use of physical plant before the connection is established; i. e., "terminal costs" and circuit holding time.

This variation in cost might be taken care of entirely through the differential between the rates for each class of service, but this would probably tend to promote abuse of the service since, without a report charge information might be conveyed free of charge over telephone wires by the use of prearranged codes in the reports given on uncompleted person-to-person messages. Moreover, the report charge discourages the patron from placing person-to-person calls where the prospects of establishing the connection are very remote.

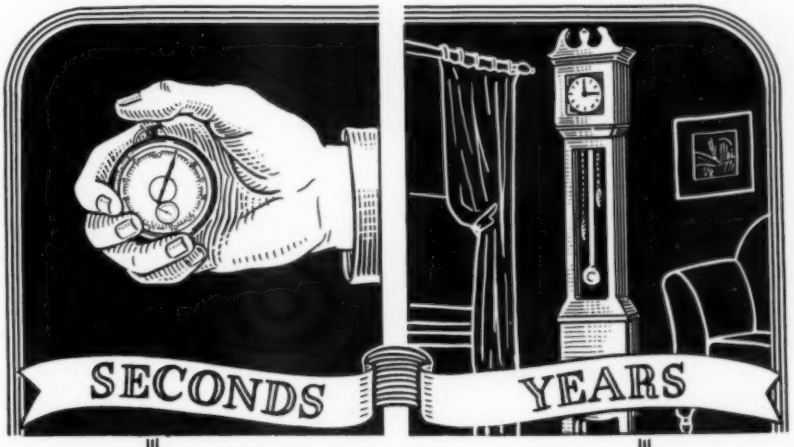
The basic Bell System classification of service into station-to-station and person-to-person and a report charge applicable to certain uncompleted calls has been adopted throughout the Bell System, with two modifications in the state of Oklahoma. For intrastate traffic in Oklahoma, there is no report charge on any calls whatsoever, and the rate for messages not exceeding 12 miles is $.15 for both station-to-station and person-to-person service.

(To be concluded)

▼ ▼

Bell System Gained 30,000 Telephones in February

The principal operating subsidiaries of the American Telephone & Telegraph Co. had a net gain of 30,000 telephones in service in February, according to the company. The gain totaled 92,000 stations in February, 1937.



S-6
11-51 Pair

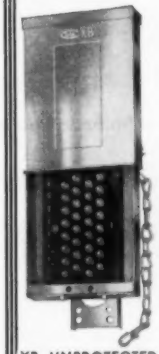
S-X
4-5-6 Pair

TERMINAL and protection facilities are of vital importance in the chain of equipment necessary to complete calls in a few seconds. You are dependent upon them to keep your lines free from hazards over which you have no control. Not only must this terminal and protection equipment provide an instantaneous path for speech, but it must be so built it will serve faithfully for decades with a minimum of attention.

Cook Terminal and Protection equipment WILL do these things for you.

The reputation won by Cook for the performance of its equipment is the result of advanced design, precision manufacture, quality of materials and 37 years' experience in manufacturing.

You'll give a higher standard of service, save money and make more profit with Cook Terminal and Protective equipment. Be safe. Be sure. Always specify Cook.


XB UNPROTECTED TERMINAL
11-16-26 Pair

NO. 7 AERIAL WIRE ARRESTER

BE SURE—ALWAYS SPECIFY
COOK
TERMINAL AND PROTECTION EQUIPMENT
COOK ELECTRIC CO.
2700 Southport Ave., Chicago

Commission and Court Activities

A. T. & T. Separation from Western Electric Hinted

This week the Federal Communications Commission was to commence consideration of the report to be submitted to Congress as a result of the commission's investigation of the A. T. & T. Co. and some of its subsidiaries.

Chairman Frank R. McNinch in making this announcement to reporters on March 10, said he understood the report, prepared by Commissioner Paul A. Walker, contains a recommendation that the American Telephone & Telegraph Co. relinquish ownership and control of its manufacturing subsidiary, Western Electric Co. The recommendation requires full commission approval to become effective.

Chairman McNinch's announcement of early consideration of the report, according to the Wall Street Journal, immediately raised questions of major financial and industrial significance not only for the A. T. & T. Co., but, also, for Independent telephone manufacturers.

Last year, gross sales of Western Electric — largest since 1931 — were $203,467,000, of which less than $8,000,000 were purchases by companies outside the Bell System. On this gross business, Western Electric reported earnings of $20,782,000. This was despite the fact that the company has followed a policy of limiting profits on sales made to affiliated A. T. & T. companies.

Of the 6,000,000 Western Electric shares outstanding, A. T. & T. owns all but a few thousand, and, in 1937, collected $3 a share in dividends, or something less than $1 a share on the 18,686,000 shares of A. T. & T. stock. The manufacturing subsidiary on December 31 last, had current assets of $93,696,744 and liabilities of $21,324,823. Its plant value was placed at $141,050,000.

The fact that A. T. & T. may be faced with the possibility of having to divorce an affiliate, the Wall Street Journal stated, immediately recalled action which the company took 20 years ago when it was required to divest itself of holdings in Western Union Telegraph Co. At that time, the A. T. & T. sold its stock to a syndicate which reoffered it; but the conditions of the sale made it mandatory for the syndicate first to offer the stock to Western Union employes and officers.

Of course, there is no guarantee that similar procedure would be followed, if and when the pending FCC report finally is acted upon. The company always would have the option of making an outright distribution of its Western Electric holdings, and, if such a policy was followed, the distribution would work out less than one-third share of Western Electric for each share of A. T. & T.

Another question which would arise inevitably in the event of a divorcement, the news report continued, would be that of what percentage of Bell System business the Western Electric might expect to retain. While officials of all companies concerned declined to make any hard and fast estimates, there was a general belief that the fact that Western Electric products are geared to the special Bell patents, coupled with its large-scale production schedule, would give it a competitive advantage over any outside manufacturer.

Some expressed doubt as to whether any Independent firm would be able to meet the low price schedules which Western Electric has maintained. Another major factor would be the extent of patent protection available to Western Electric in event of a severance of its connection with the A. T. & T., particularly in the apparatus field.

Of course, a substantial portion of Western Electric's business is understood to be manufacture of cable.

Should the Western Electric ever be separated from the A. T. & T., opportunity for additional telephone equipment business presumably would be thrown open to several manufacturers whose operations are now confined to Independent telephone companies and other public utilities including the Western Union Telegraph Co.

▼ ▼

President Asks FCC to Study Broadcasting Tax

Federal Communications Commission Chairman McNinch said on March 10 that President Roosevelt had asked him and other members of the commission to make a study of possibilities of levying a tax on radio broadcasting stations.

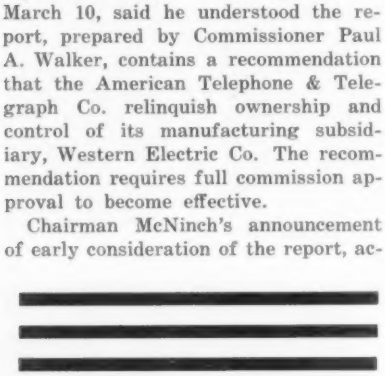
The Boylan bill now in Congress would provide for a tax based on wattage and Chairman McNinch said he would prefer to include gross income also as a basis for taxation. Mr. McNinth also discussed international broadcasting in the South American field with the President.

▼ ▼

Asks Consideration of Rates on State-Wide Basis

Possibility of a state-wide telephone rate case appeared March 10 when the Indiana Bell Telephone Co. petitioned the Indiana Public Service Commission for a consideration of its rates on a system-wide basis and asked to consolidate a number of petitions for rate reductions in individual Indiana cities and areas.

Petitions for rate reductions already have been filed by patrons in Indianapolis, Marion, Albany, Auburn, Selma,


Introducing
RTC-2
The New Vincent Rare Gas Relay
For Quiet Transmission On Rural Party Lines
Has lower voltage drop for better ringing with either coded or harmonic bells. Installed with a single screw!
Send for details explaining how the RTC-2 Relay will greatly improve your service at low cost.
L. S. BRACH Mfg. Corp.
Oldest Makers of Rare Gas Lightning Arresters
Newark, N. J.
BRACH
Est. 1906

Anderson, Martinsville, St. Joseph county, Mishawaka, South Bend and Huntington. First of the petitions, those of St. Joseph County and Mishawaka, was scheduled for a hearing the week of March 14.

The company asks the commission to determine rates that would guarantee a fair return on its property valuation; consolidate the rate cases, consider the entire Indiana Bell property and not single exchanges in reaching fair property valuations and to continue use of the company-wide basis as the unit for rate-making.

The petition set out that since the commission established rates on a system-wide basis back in 1926, the company had made voluntary reduction in intrastate toll and miscellaneous rates aggregating $250,000 annually. It was stated that last year the company earned less than 5½ per cent on a fair property valuation and that because of increased labor costs, taxes and decreased business, returns this year will be below 5 per cent.

The company held that if valuations and rates were fixed on individual units or exchanges, telephone service to the smaller communities will be retarded, if not prevented, and service to the small communities is important because it increases the value of telephone service to all users in the state.

▼ ▼

Michigan Bell Must Continue to Furnish Service

Circuit Judge Leonard D. Verdier, Grand Rapids, Mich., in a decree filed February 12 in the suit brought by the Camera Shop against the Michigan Bell Telephone Co., held that the plaintiff did not owe the telephone company any money for telephone service already rendered, and that plaintiff's telephone service should not be curtailed as long as the plaintiff paid his bill in the customary manner and at the required time.

The suit resulted from a business difference between the Camera Shop and the telephone company, which the plaintiff charged did not involve the question of telephone service.

▼ ▼

Independent Claims Bell Invaded Territory

The complaint of E. D. Simpkins, Independent telephone operator, that the Southwestern Bell Telephone Co. had invaded his territory at Paradise, Payne county, Oklahoma, oil boom town, was heard March 11 by the Oklahoma Corporation Commission. The commission continued the case to March 15 for further hearing.

The hearing developed that the Southwestern Bell company was first to give notice that it would furnish service to Paradise but that Simpkins was the first to install an exchange there. The latter claims that the Bell interests have built lines into his exchange territory and asks the commission to enjoin that company from installing service at Paradise.

▼ ▼

Oklahoma Handset Case Taken Under Advisment

Hearing of the case of the Oklahoma Corporation Commission against the Southwestern Bell Telephone Co., for proposed elimination of handset differential charges of 15 cents per month or limitation to a period of 18 months, was concluded March 11 at which time the company gave its testimony. The commission presented its testimony at a former hearing, March 1. The commission took the case under advisement.

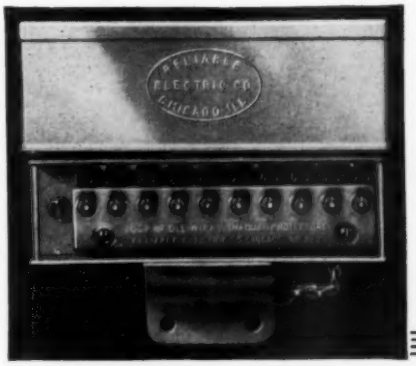
John Cantrell and E. W. Clausen, attorneys for the Southwestern Bell, presented the company's case. Sol Gordon, assistant attorney, B. Richardson, telephone engineer, and Paul Reed, special auditor and accountant, of the commission, conducted the case for the corporation commission. A. F. Sweeney, Tulsa attorney, presented objections to most of the evidence of the Bell company, on behalf of the city of Tulsa.

The Southwestern Bell company presented evidence intended to show that it was losing money on most of its exchanges in Oklahoma and that elimination of the differential handset charge of 15 cents per month would cause further loss and that maintenance of the charge was necessary for revenue purposes as well as a discouragement charge against wholesale transfer to handsets.

Witnesses representing the American Telephone & Telegraph Co. presented exhibits and evidence to support the 1½ per cent contract service charge of the parent company to the Oklahoma division of the Southwestern Bell stating that such service represented no duplications and for 1936 cost $258,153 for which the A. T. & T. received only $163,423.

The Oklahoma division of the Southwestern Bell company sustained a net loss of $267,111 on a fair value basis, on its exchanges during 1937, exclusive of Oklahoma City and Tulsa, and $277,756 on an investment basis, according to company testimony. On all the Okla-

(*Please turn to page* 32)



Reliable

No. 222

CROSSARM PROTECTOR

No. 222 ten-wire crossarm arrester drains static from exposed lines. It is very sensitive in operation and rugged in construction.

Use the No. 222 in connection with unprotected cable terminals where drops are over exposed. Use it on open wire one or two poles away from your cable end. On lines where static is very troublesome, crossarm arresters should be placed at frequent intervals.

Reliable ELECTRIC COMPANY
OVER 25 YEARS SERVICE TO THE UTILITIES
3145 CARROLL AVENUE CHICAGO ILLINOIS

The Operators' Corner

By MRS. MAYME WORKMAN
Traffic Supervisor, The Illinois Telephone Association, Springfield, Ill.

DID YOU ever observe the work of a local operator and notice how eagerly she answers every new signal, frequently losing sight of the equally important responsibility of taking down connections promptly when a signal is received that conversation is completed? It is a fine spirit to have a desire to answer as many signals as possible and as quickly as possible, too, but in our zeal to follow this practice we should not overlook other important operating features.

If, for example, a subscriber receives a one-second or two-second answer to his signal and later when attempting to reach the operator again on a recall, is required to wait 15, 20 or more seconds for a response, the effect of the prompt service in answering the line signal is entirely lost, as far as the subscriber is concerned. All he will remember is that it took the operator a mighty long time to make up her mind to come back in on the line.

Another important operating feature affecting the service rendered to customers is the prompt release of lines when conversation has ended. How often we see three or more disconnect signals burning. This means that if an operator has a call for any number on these connections she will receive a "busy tone" and will pass a busy report to the calling party, with the result that someone's call is being delayed unnecessarily or, possibly, that the call may be lost.

RECALL signals are the SOS calls at the switchboard and should be answered immediately. Traffic series No. 322

Students or less experienced operators are usually prone to be slow in taking down their connections. Supervisory people should, therefore, not permit a student operator to answer line signals when she has two or more disconnect signals burning on her position.

For some unknown reason, operators seem to derive more pleasure and satisfaction in establishing connections than they do in taking them down. The importance of close attention to recall signals cannot be overestimated. They usually mean that a subscriber is in difficulty due to reaching a wrong number, the desire to place a call for a new number, to call a number supplied by the Information operator, etc. Recall signals are the SOS signals at the switchboard. Don't overlook them.

A friend of the writer has many difficulties in her culinary efforts due to improper supervision during the time the food is being cooked or baked. She is very meticulous in following the prescribed recipe but seems to be of the opinion that when the food is placed on the stove or in the oven, no further effort on her part is necessary. The result is that she encounters many failures due to burning, scorching or improper baking, leaving the food in the oven too long or not long enough.

Some of our customers get "Scorching hot" or "Burnt up" in slang parlance, when an operator fails to supervise her connection after being careful to test the line properly and to ring the right number.

Don't spoil your initial efforts by lack of proper supervision or by being neglectful or slow in taking dead connections down promptly. And remember, SOS means trouble.

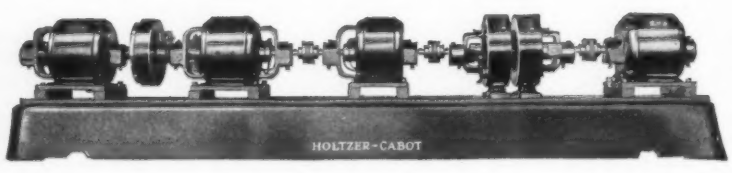
Questions from Illinois Operators

1. In clearing a circuit on a built-up circuit, if the first intermediate office answers first, should you tell her to clear to the distant office or have her ring the next intermediate office for you again?
2. On calls which tributaries are authorized to handle to destination, should the toll center ticket a charge, too?
3. How many times may an operator tell a subscriber the line is busy?
4. If more than one long distance call comes in to a tributory operator before it can be passed, should both calls be passed on same circuit or on different circuits?
5. On a local call, which cord is taken down first, the answering or the ringing cord?

The answers to these traffic questions are given on page 28.

Country's Busiest Long Distance Circuits

The busiest long distance telephone routes in this country are those between New York and Philadelphia. Other busy routes are between Chicago and Milwaukee, and between New York and Boston.



Alternating Current Motor-Driven Four Frequency Set

A complete line of telephone ringing equipment available.

Let HOLTZER-CABOT engineers help solve your ringing problems.

THE HOLTZER-CABOT ELECTRIC COMPANY

125 Amory Street, Boston, Mass.

6161 So. State Street Chicago, Illinois

New Types Of Handset Instruments

IN CONTRAST to the antiquated desk telephones used during the pioneer days of telephony, clumsy and crude to eyes accustomed to streamlines, are the late handsets moulded to pleasing forms in smooth plastics in a variety of hues.

Assembling the separate parts making up the handset is precision work. Parts are adjusted to micrometer fineness, tested and retested, to meet the varied requirements of present-day telephone service—a service that offers

New Stromberg-Carlson 1210 wall telephone.

efficient communication whether telephoning from house to garage, or to an overseas city.

From the laboratories of Stromberg-Carlson have come improvements that help to make the telephone a thing of beauty, capable of enduring hard usage without impairing its high efficiency. One of the outstanding recent developments they have contributed is the placing of the induction coil, condenser and ringer in the base of the instrument to eliminate the separate bell box. Since this advance in telephone design of Stromberg-Carlson, self-contained handsets have proved popular with the entire industry.

Most recent Stromberg-Carlson design incorporating the feature is the new 1212 handset which was put in production December 1. Manufacture also started at the same time on a new wall type telephone, No. 1210.

Three features distinguish the new wall type and cradle type Stromberg-Carlsons—beauty, compactness, convenience. They offer the user transmission qualities of high standards and are at the same time an attractive article of office or household equipment, rather than a mechanical device to be placed anywhere.

In designing these new instruments, it was Stromberg-Carlson's purpose first to create a base or cradle that would not only serve as a bell box but would also be an ornament on the wall or an artistic pedestal on table or desk. To accomplish this, noted designers were called into consultation. Their success in achieving this purpose is shown by the instruments themselves.

But beauty is not their sole feature. They have a compactness, a convenience and a workability that are said to insure the utmost simplicity in installation and maximum service in use. The results claimed are low cost of installation and upkeep to the operating company and the great satisfaction to the subscriber.

The Stromberg-Carlson 1212 handset which introduces several innovations, is moulded in a graceful, curving design of mar-resisting, black phenol compound. Ringer, induction coil and condenser are mounted on a pressed steel base, over which a graceful cradle supports the handset unit—a compact assembly of transmitter and receiver. The base may be uncovered easily by removing two screws, making all parts readily accessible.

The handset unit is built so that as long as the user holds the receiver to his ear, the transmitter is always in correct relation to the user's mouth, insuring proper transmission of his message. Low side-tone pick-up qualities filter out room noises and reduce sound reverberations in the receiver to half the ordinary amount.

The hookswitch employs extra-long, flexible springs designed to make perfect contact at all times while it is being operated.

Two gongs of varying thicknesses of brass accomplish a two-tone effect that gives a pleasing attention-compelling signal that can be heard clearly through louvres at the rear of the base. A grill cloth behind the louvres prevents dust from entering.

The induction coil is of a special design, made of high grade iron which makes possible a reduction in size over

SANDS

TYPE 11 SUBSTATION PROTECTOR

A compact, all-porceelain protector of the latest "rosette" type which, when closed, has no projections or exposed terminals. Equipped regularly with 5-ampere glass fuses and Type 2105 discharge blocks, giving full protection against lightning and crosses with electric circuits.

Write for further information on this and other Sands protective products.

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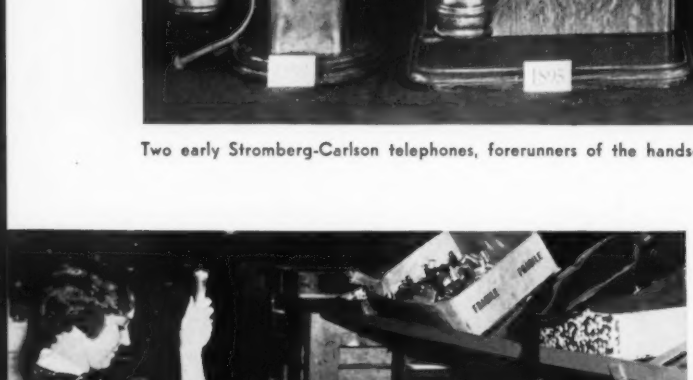
AUTOMATIC ELECTRIC SALES COMPANY, LTD.
Chicago

Steps in Assembling a Telephone

Two early Stromberg-Carlson telephones, forerunners of the handset.

Pouring granulated carbon into transmitter carbon cup.



Switch plate assembly. Used in base of the telephone.

Assembling the arm, consisting of transmitter and receiver.

Assembling the telephone base.

Assembling the cradle stands.

New Stromberg-Carlson 1212 handset.

the conventional types of about one-third. Phenol compound spool heads supply perfect insulation. Fixed electrical characteristics are maintained by steel laminations held in place by clamps. Though much smaller, the induction coil, it is stated, does the work of larger coils with equal efficiency.

Provision is made for dial installation without adding a sub-base. Such an addition can be made inexpensively without destroying the beauty of the telephone.

Companion to the 1212 handset is the new Stromberg-Carlson 1210 wall set, in a modern, streamlined design of molded black phenol compound. Its receiver-transmitter unit is assembled in a compact handle and has a Duratex cord long enough to give all the convenience of a telephone on the subscriber's table or desk.

All parts of the 1210 wall type handset are mounted on a pressed steel base where they are easily accessible. Greater ease of mounting this telephone is effected by using two bayonet slots in its base—one vertical and one horizontal—through which it is attached to the walls by screws. Thus a screw can be sunk first, and the instrument suspended while it is easily made firm with the other screw. This new method of mounting, it is declared, insures firmness with a minimum of installation work.

Ringer and induction coil of the wall set are interchangeable with those in the 1212 handset. Each telephone can be supplied in both straight-line biased or harmonic ringer types. The hookswitch of the 1210 wall telephone has only one moving part which is hidden within the holder of the handset unit, securely protected from any possible injury. Twin contacts on springs make sure of positive connections.

The high quality transmission and reception which these new Stromberg-Carlson handset telephones provide are accomplished by the special Stromberg-Carlson transmitter and receiver. In the transmitter is a cone-shaped diaphragm which moves as a rigid piston; annular corrugations near the outer edges give maximum flexibility. The receiver is completely assembled as a unit with the ear cap and diaphragm and tested. This unit is threaded into the handle with the ear cap holding the diphragm in its proper position.

▼ ▼

Burroughs Book on Budgetary Control

A comprehensive illustrated book, "Budgetary Control Through Modernized Mechanical Methods," has just been issued by the Burroughs Adding Machine Co. to provide assistance in the promotion and improvement of budget control in governmental, educational, industrial and commercial accounting offices.

All phases of budgetary control and the preparation of periodic operating reports are included in the text, which was written to provide an easily understandable explanation of appropriation accounting. Large double-page displays of accounting forms are used wherever possible to illustrate the points under discussion.

Appending the text is a glossary of municipal accounting terms as compiled by the national committee on municipal accounting.

The book will be especially interesting to those persons contemplating the reorganization of budget accounting routine, or the revision of account classifications and ledger arrangement, and to persons interested in the beneficial application of machines to budgetary accounting work. Copies may be examined upon request at the nearest Burroughs office.

▼ ▼

Death of L. E. LaFleur of Stromberg-Carlson

L. E. LaFleur, for 31 years connected with Stromberg - Carlson Telephone Mfg. Co., passed away at Chicago, January 10, in his 64th year.

Born a Canadian, Mr. LaFleur received his education in Levis, Quebec, and military training at the Royal Military College, Kingston, Ont. In March, 1906, he joined the sales force of the Stromberg-Carlson Telephone Mfg. Co., to travel the Ontario territory.

After a period he was transferred to the Rochester headquarters sales force, and then to the Chicago branch where he became district sales manager. While in this capacity he traveled extensively through the Canadian West.

When the Canadian company became Stromberg-Carlson Telephone Mfg. Co. of Canada, Ltd., in 1923, Mr. LaFleur went to Toronto as assistant manager, which position he held until February, 1937, when ill health prevented his carrying on.

STEEL STRAND ◆ TELEPHONE WIRE

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SCIENTIFICALLY MADE TO MEET SPECIFIC DEMANDS

Crapo Galvanized Steel Strand is produced from start to finish to meet the specific demands of the service for which it is intended. Each wire used in forming a particular size and grade of strand is made from the same special steel, scientifically processed in the same way, uniformly galvanized by the *Crapo* Process. The tough, heavy, pure zinc galvanized coating, tenaciously bonded to the wire by the *Crapo* method, withstands the abuse of construction, provides lasting protection.

Crapo Galvanized Strand and *Crapo* Galvanized Telephone Wire constantly are setting new records for long, economical life and low maintenance costs. Ask your Jobber, or write direct!

INDIANA STEEL & WIRE CO.
Muncie, - - Indiana

The "Great Blizzard," First Major Telephone Emergency

To augment the 50th anniversary celebration of the famous eastern blizzard of March 11-13, 1888, the historical library of the American Telephone & Telegraph Co. arranged a special blizzard exhibit which was on display at 195 Broadway, New York, this past week. It mainly featured reproductions of old newspaper accounts and illustrations of the "Great Blizzard."

President Walter S. Gifford of the A. T. & T., and President John L. Kilpatrick of the New York Telephone Co., opened the exhibit March 11 by greeting two retired telephone workers who played an important part in maintaining telephone services during the blizzard. The veterans were Angus A. Macdonald, 75 years old, of Boston, Mass., and John (Jack) Stange, 78, of Jersey City, N. J. The first named was employed by the A. T. & T. and the latter by the New York Telephone Co.

It was Stange who, in cooperation with G. H. Dickenson, a New York World reporter and the New York correspondent for the Boston Daily Globe, got the first direct blizzard news through between New York and Boston by telephone at a time when news was being interchanged between the two cities by cable via London. So far as is known the resulting newspaper accounts constituted the first published tribute to a telephone employe.

And it was Macdonald, himself, who later was asked to pose for the well-known picture, "The Spirit of Service," that now decorates every citation accompanying T. N. Vail Memorial Medal awards for conspicuous devotion to duty on the part of telephone people. The snowshoes that Macdonald wore during his blizzard patrol are part of the exhibit in the A. T. & T. historical library.

The "Great Blizzard" of 1888 was the first widespread public emergency that long distance telephone service was ever called upon to face. The American Telephone & Telegraph Co. had been incorporated but three years and its long distance lines extended only as far south as Philadelphia and as far west as Troy, N. Y. The line between New York and Boston had been newly-built of hard-drawn copper wire with poles more closely placed than usual.

All forms of communication were brought down by the storm except the long distance lines between New York and Boston and Philadelphia. They stood up, and Stange's faithful work in tapping the line at Kingsbridge in New York enabled Dickenson to get the long distance telephone connection with Boston for his "scoop."

Dickenson's graphic account of the incident appeared in the Boston Globe a week later bearing the headline, "How we got there." For New York newspapers the exploit furnished a theme for some interesting references as is shown by the collection of yellowing clippings in the telephone company's library.

One of these is the boast of one paper that it had received dispatches from Boston by cable via London, with the comment: "It will probably be a long time—we hope a very long time—before Boston and New York are again mutually dependent for news on the Atlantic cable." To which a rival paper ironically rejoined, "Especially when that mutual dependence is based upon ignorance of the fact that the long distance telephone is in good chatting order."

Both Macdonald and Stange, who had come together only once before their meeting March 11, retired on telephone pensions several years ago. They are hale and vigorous despite their years and still have vivid recollections of their blizzard experiences 50 years ago this month.

CABLE LUBRICANTS

Albany Underground Cable Lubricant, adopted by the Bell System for pulling lead sheathed cable.—Inert chemically—Will not separate—Ease where cable removal is necessary—Less strain—Adheres to the sheath. Write for particulars. Adam Cook's Sons, Inc., Linden, N. J.

POLES

B. J. Carney & Co., 100 N. 7th St., Minneapolis, Minn.—Western red cedar poles. Pentrex Butt Treated or Plain.

International Creosoting and Construction Co., Galveston, Texas.—Creosoted Southern Yellow Pine Poles. Plants: Beaumont and Texarkana, Texas.

MacGillis & Gibbs Company, Milwaukee, Wis.—Northern White and Western Red Cedar Poles. Plain or butt-treated. Immediate quotations on request.

T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles. Plain or butt-treated.

H. Sigalet & Company, Ltd., Lumby, B. C., Canada—Western Red Cedar Poles. Plain or butt-treated.

Valentine Clark Corporation, 2516 Doswell Ave., St. Paul, Minn.—Finished Cedar Poles. Plain or butt-treated.

COMMISSION AND COURT ACTIVITIES

(*Continued from page* 27)

homa exchanges for the same year the company, on a fair value estimate of $51,052,000, earned a net income of $2,113,955, or 4.14 per cent.

Attorneys for the commission and for Tulsa objected to all evidence relating to general rates contending that this had no bearing on the question of handset differential charges.

Exhibits introduced by the Southwestern Bell bearing directly on handset differentials showed that from 1927 to January, 1938, inclusive, 122,138 handsets were installed in Oklahoma, 120,656 of which were in service on January 1, 1938.

Comparative costs of the three standard classes of telephone sets in use were given as: wall set, $17.88, desk set, $17.32 and handset, $18.87, for each instrument. Company exhibits placed the excess cost of rendering handset over desk set service at 10 cents per month allowing an excess revenue of 5 cents per telephone per month. Total collections, as a result of this excess from 1933 to 1937 inclusive and including January and February, 1938, were $215,171.40.

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Hearing on Inductive Interference Complaints

The interesting and somewhat involved question of whether co-operative electric service companies, operating with federal assistance, can be forced to comply with order No. 11,795 of the Oklahoma Corporation Commission covering inductive interference, was raised at a commission hearing March 17 involving complaints of four Oklahoma Independent telephone companies.

These are: Cause No. 17,273, Mutual Telephone Co., of Okeene, vs. Consumers Rural Electric Co., of Kingfisher, Okla.; Cause No. 17,299, Southwest Telephone Co. and Cause No. 17,300, Southwestern States Telephone Co., operating in Cleveland and McClain coun-

Answers to Traffic Questions on Page 28

1. Say to the first intermediate operator, "Clear to (distant toll center)." However, if the toll circuit is connected to a ringdown trunk at the terminating toll center, say, "Clear to (called place)."
2. No.
3. As long as the busy condition exists.
4. Calls should be passed on different circuits unless they are sequence calls.
5. When both cords are within easy reach, take down the front (or ringing cord) first. Where neither cord is within easy reach, as far as possible, take down the front (or ringing cord) first.

ties, vs. Oklahoma Inter-county Electric cooperative, of Norman, and Cause No. 17,313, North Union Telephone Co. operating at Burlington, Okla., and vicinity, vs. Alfalfa County Electric Cooperative, of Cherokee.

The facts and principles in each case are similar and the hearing on the Mutual Telephone Co. case, of Okeene, may be made the basis for a decision in all of them. In each case the cooperatives have constructed grounded rural electric service lines paralleling grounded return lines of the telephone companies.

Each telephone company claims that the cooperatives have refused to comply with order No. 11,795 which requires electric companies building lines setting up inductive interference with telephone company lines, to bear the cost of materials to make the grounded telephone lines metallic or otherwise eliminate the interference.

It is understood that the cooperatives will contend, at the hearings, that the commission has no jurisdiction over them as they are not privately-owned electric public service companies.

The electric line in the Mutual Telephone Co. area was energized last December 10. The other electric lines have not yet been energized.

▼ ▼

REA in Court Regarding Commission Control

The REA is in conflict with the West Virginia Public Service Commission whose authority over REA construction work it refuses to admit. The state regulatory authorities obtained a temporary injunction forbidding REA cooperatives in the state from further activities without approval of the commission.

Circuit Court Judge Calhoun in Hardy County has refused to dissolve this temporary injunction. Hearings on the final case will begin March 21, when the Hardy County Light and Power Association will contend that it is not a public utility subject to regulation.

▼ ▼

Independent Abolishes Extra Charge for Handsets

In an order issued February 28 the Michigan Public Utilities Commission directed the Union Telephone Co., of Owosso, to eliminate the extra charge of 25 cents a month for handset telephones, effective March 1. Subscribers desiring this type of telephone have been paying this fee for 36 months. The order will affect 2,581 telephones and will mean an annual saving of about $8,000 to subscribers. The company will be permitted to charge $1.50 for change-over installations.

The Union company serves 35 towns in central Michigan and has approximately 11,000 subscribers of which about 30 per cent are using handset telephones. According to the commission, W. J. Melchers, manager of the telephone company, and other company officials, have agreed to the order.

The company operates in Isabella, Midland, Gratiot, Montcalm, Mecosta, Clinton, Shiawassee, Ionia and Saginaw counties.

▼ ▼

Revise Charge for Telephones "In Place"

The Nebraska State Railway Commission has approved an application of the Lincoln Telephone & Telegraph Co. to revise its service connection charges affecting instruments left in place by change of occupants of buildings. Under the new schedule a flat charge of $1 will be collected when a subscriber takes over the equipment in place and with no additional charge for change in type of service or instrument.

In the past, only 29 exchanges made an "in place" charge, but the new schedule applies to all exchanges.

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Summary of Commission Rulings and Hearings

Illinois Commerce Commission

March 15: Hearing in Chicago on petition of the Middle States Telephone Co. of Illinois for permission to enter into an arrangement with respect to management, construction, engineering, purchasing and accounting services with its affiliate, Central Electric & Telephone Co., a Delaware corporation.

Indiana Public Service Commission

March 10: Petition filed by Indiana Bell Telephone Co. asking consideration of its rates on a system-wide basis and that the commission consolidate the several petitions filed by individual cities and areas seeking rate reductions.

Michigan Public Utilities Commission

February 28: Order issued directing the Union Telephone Co. to eliminate the extra 25-cent monthly charge for handset telephones, effective March 1.

Minnesota Railroad & Warehouse Commission

April 19: Hearing in Grove City on application of the Empire Telephone Co. for authority to change its present schedule of telephone rates at its Grove City exchange.

Missouri Public Service Commission

March 29: Hearing in Jefferson City in the matter of the maintenance of telephone service between Bunceton and Boonville, at the rates contained in the

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